

# 610C Electrometer

- $5 \times 10^{-15}$ A input current
- $10^{14}\Omega$  input resistance to 100V
- Measures V, I, R, Q, and is a current source

## ORDERING INFORMATION

**610C** Solid State Line Operated Electrometer with Mating Input and Output Connectors

This product is available with an **Extended Warranty**. See page 635 for complete ordering information.

The line-operated Model 610C electrometer is an analog instrument with a wide range of capabilities. The 610C is a grounded-input instrument that has wide voltage, resistance, and charge ranges.

## ACCESSORIES AVAILABLE

### PROBES

6103C Voltage Divider Probe (1000:1)

### CABLES

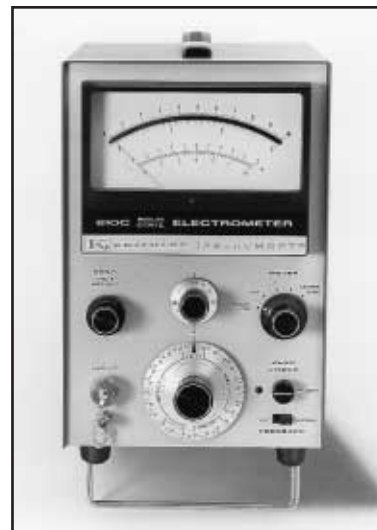
19072 Coaxial Input Cable, UHF to Alligator Clips, 0.9m (3 ft)

### TEST FIXTURES

6105 Resistivity Chamber

8002A High Resistance Test Fixture with Cables

See page 235 for descriptions of all accessories.



**EMC:** Conforms to European Union Directive 89/336/EEC.

**SAFETY:** Conforms to European Union Directive 73/23/EEC (meets EN61010-1/IEC 1010).

## AS A VOLTMETER

**RANGE:** 0.001V full scale to 100V in eleven 1× and 3× ranges.

**ACCURACY:**  $\pm 1\%$  of full scale on all ranges, exclusive of noise and drift.

**ZERO DRIFT:**  $< 1\text{mV}$  per 24 hours;  $< 150\mu\text{V}$  per °C.

**METER NOISE:**  $\pm 25\mu\text{V}$  max. with input shorted on most sensitive range.

**INPUT IMPEDANCE:**  $> 10^{14}\Omega$  shunted by 20pF. Input resistance may also be selected in decade steps from 10 to  $10^{11}\Omega$ .

## AS AN OHMMETER

**RANGE:** 100 $\Omega$  full scale to  $10^{14}\Omega$  in 25 linear 1× and 3× ranges.

## AS AN AMMETER

**RANGE:**  $10^{-14}$ A full scale to 0.3A in twenty-eight 1× and 3× ranges.

**ACCURACY:**  $\pm 2\%$  of full scale on 0.3 to  $10^{-11}$ A ranges using smallest available multiplier setting;  $\pm 4\%$  of full scale on  $3 \times 10^{-12}$  to  $10^{-14}$ A ranges.

**METER NOISE:**  $< \pm 3 \times 10^{-15}$ A.

**OFFSET CURRENT:**  $< 5 \times 10^{-15}$ A.

## AS A COULOMB METER

**RANGE:**  $10^{-19}$ C full scale to  $10^{-8}$ C in seventeen 1× and 3× ranges.

**ACCURACY:**  $\pm 5\%$  of full scale on all ranges. Drift due to offset current  $\leq 5 \times 10^{-15}$ C per second.

# 617 Electrometer/Source

- Built-in V source
- Full autoranging
- Built-in IEEE-488 interface
- Built-in V- $\Omega$  Guard
- Resistance measurement from 0.1 $\Omega$  to  $> 10^{16}\Omega$

## ORDERING INFORMATION

**617** Electrometer/Source with Model 6011 Input Leads and Model 6172 Triax Adapter

This product is available with an **Extended Warranty**. See page 635 for complete ordering information.

**EMC:** Conforms to European Union Directive 89/336/EEC.

**SAFETY:** Conforms to European Union Directive 73/23/EEC (meets EN61010-1/IEC 1010).

For most new applications, our Model 6517A (page 112) offers better performance than the 617 at a similar cost.

The Model 617 performs four functions: current, resistance, voltage, and charge measurements. It is capable of detecting currents from  $1 \times 10^{-16}$  to  $2 \times 10^{-2}$ A and resistances up to  $5 \times 10^{16}\Omega$ . It provides more than  $2 \times 10^{14}\Omega$  input impedance on voltage measurements from 10 $\mu\text{V}$  to 200V and can detect charge over a range of  $10^{-14}$  to  $2 \times 10^{-8}$ C.

In addition to standard resistance functions using constant current, the 617's variable voltage source can supply from 50mV to 102V, which can be applied to a resistance and the resulting current or resistance displayed.

The 617's built-in IEEE-488 interface makes all controls programmable. The built-in V- $\Omega$  GUARD switch lets you drive the inner shield of the triaxial input cable at guard voltage, minimizing leakage current and time constants. 100-point data storage is also built in, with Min/Max readings available from front panel or bus.

